S.No.306 BATCH: 2011 – 2015 Reg.No.

12

END OF SEMESTER EXAMINATIONS, NOVEMBER - 2017
DIGITAL ELECTRONICS, MICROPROCESSORS AND MICROCONTROLLERS
SUBJECT CODE: 12UAPH07

MAJOR: B.Sc., (Physics)/Physics CcA **SEMESTER: V**
TIME : 3 HOURS **MAX.MARKS: 75**

SECTION – A (10 X 1 = 10)

Answer ALL the Questions:

1. Convert hexa decimal number to binary $(7A23)_{16} = (\quad)_2$

   a) $(0111\ \ 1010\ \ 0010\ \ 0011)_2$ b) $(1000\ \ 0101\ \ 1101\ \ 1100)_2$

   c) $(111\ \ 1010\ \ 10\ \ 11)_2$ d) $(0111\ \ 1010\ \ 0011\ \ 0010)_2$

2. Write the abbreviation of BCD

   a) Basic Code Digits b) Binary Coded Decimal

   c) Binary Coded Digits d) Basic Code Decimal

3. When both the inputs of *J* and *K* is *HIGH*, the output action is

   a) Set b) Reset

   c) Last State d) Toggle

4. Four adjacent is in *K-map* is called

   a) Pair b) Quad

   c) Octet d) Implicant

5. Expand PIPO

   a) Parallel in Pulse Out b) Parallel in Parallel Out

   c) Pulse in Pulse Out d) Pulse in Parallel Out

6. To construct mod-3 counter we need_____ number of flip flops.

   a) Three b) Two

   c) Four d) Only one

7. MVI stands for

   a) Move among registers b) Move immediate data to registers

   c) Move the Information d) Move the address.

8. Accumulator register is a _____bit register

   a) 8-Bit b) 16-Bit

   c) 6-Bit d) 10-Bit

9. 8056 Microcontroller is a_____

   a) 8-Bit CPU b) 10-Bit CPU

   c) 16-Bit CPU d) 32 Bit CPU

10. XCH A, < Byte > means

    a) Exchange accumulator with byte variable b) Exchange register

    c) HL Pair d) BC Pair

SECTION – B (5 X 4 = 20)

Answer ALL the Questions:

11. a) Perform (i) 11011 – 10010 (ii) 101 x 11

(OR)

b) Explain OR gate with diagram and truth table.

12. a) Discuss the concept of half Subtractor with diagram and truth table.

(OR)

b) What is T flip flop? Explain its concept .

13. a) Discuss the concept of 4-Bit Asynchronous counter.

(OR)

b) What is a shift register? Discuss its construction.

14. a) Write any two types of addressing modes. Explain with example.

(OR)

b) Write a simple program in 8085 to Subtract 2 8-Bit numbers.

15. a) Explain timer flag interrupt.

(OR)

b) Differentiate between a microcontroller and a microprocessor.

SECTION – C (5 X 9 = 45)

Answer ALL the Questions:

16. a) Prove that NAND as universal gate with neat diagram and truth table.

(OR)

b) (i) Perform $(649)_{10} = (?)_8$ $(10110)_2 = (?)_{10}$ (ii) Write a short note on 8421 code

17. a) Explain the concept of full adder circuit with neat sketch and truth table.

(OR)

b) How master slave flip flop works? Explain with neat sketch.

18. a) Briefly explain the procedure for serial-in-paraller out shift register with neat sketch.

(OR)

b) Construct Mod-6 counter –Explain.

19. a) Explain in detail the architecture of 8085 microprocessor.

(OR)

b) Explain types of data transfer instructions with example and symbolic representation .

20. a) In detail explain the block diagram of Micro Controller.

(OR)

b) Explain arithmetic instructions with example.

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